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ABSTRACT

This paper outlines the increasing need for low-skilled entry level workers, documents business and industry's response to the resulting labor shortage by tapping the resources of individuals with physical and mental disabilities, and reviews problems in job placement of workers with severe disabilities. The Work Inventory for Severely disAbled (WISd) is then presented as a job analysis/worker analysis instrument that can be used to improve the worker/job fit for individuals with moderate or severe disabilities, across a diverse set of entry-level jobs. The WISd is intended to improve the level of information available to job placement personnel when attempting to make the match between an individual's skill and potential and the requirements of specific jobs. It can also be used to diagnose specific activities and working conditions in the job that warrant accommodation or job redesign. Use of the 81-item instrument involves a work site supervisor rating the extent to which each of the activities and/or working conditions pertains to the job, and supported employment staff rating the extent to which the worker is capable of performing these activities or working under these particular conditions. Discussion of the WISd's development and its validity and reliability assessment are included. (Contains 18 references.) (JDD)

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The Work Inventory for Severely disAbled (WISd): A System for Meeting Job/Client Match and Accommodation/Redesign Diagnostic Needs for Workers with Severe Disabilities

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ABSTRACT

Transition professionals have attempted to provide appropriate opportunities for the integrated functioning of persons with severe disabilities in gainful employment. In order for this integration into employment to occur, transition-to-work professionals must identify the best match between the individual's skills and potential and the requirements of specified jobs within a variety of different work sites. Furthermore, transition professionals must typically recommend steps for accommodating the individual to the job, or for redesigning the job, based on the job attributes which will pose special problems for individuals with severe disabilities.

The Work Inventory for Severely disAbled (WISd) has been developed to serve as an assessment system that can be used to improve the worker/job fit for individuals with severe disabilities across a diverse set of jobs. The WISd is intended to improve the level of information currently available to job placement personnel when attempting to make the match between an individual's skill and potential and the requirements of specific jobs. It can also be used to diagnose the specific activities and working conditions in the job that warrant accommodation or job redesign, as well as designate how these activities and working conditions pertain to all of the tasks that comprise the job, including those tasks that the worker may have been restricted from performing.

The Work Inventory for Severely disAbled: A System for Meeting Job/Client Match and Accommodation/Redesign Diagnostic Needs for Workers with Severe Disabilities

In major cities across the country, an entry-level labor crisis is affecting both large and small businesses. At a time when eight million Americans are unemployed and the labor pool is decreasing, the need for low-skilled, entry level workers is increasing. Low-skill jobs have traditionally been filled by the 16 to 24 year-old age group which will shrink from 21.1 percent of the labor force last year to a meager 14 percent by 1995 according to the U.S. Bureau of Labor Statistics (Mayer, 1985). The Department of Labor estimates that the decrease will continue into the next century (Telsch, 1989). The shrinkage of this labor pool is forcing business and industry to tap new labor sources in order to fill an increasing number of vacancies.

The entry level employee shortage is affecting a wide variety of jobs. Affected job markets range from grocery store clerks to fast-food restaurant employees. One market which especially suffers from the shortage is the fast-food restaurant chain. Tim Hermeling, spokesperson for Burger King, believes "The trend now is that teenagers just are not looking for jobs much" (Bacon, 1988). "Demand for young workers is very high. Supply is very limited.", reports Bill Cooney of

Telecommunication Techniques (Gladwell, 1988). Greg Grier of the Greater Washington Center predicts that with the addition of one million jobs by the year 2020, any improvement in the labor shortage won't be due to the baby boom workers but the tapping of non-traditional labor resources (Brenner, 1989). Director of The Conference Board, Audrey Freeman, proposes that "Some of the habitual hiring practices have to change." (Mayer, 1985). Employers being faced with this dilemma are rethinking their hiring strategies. "We've got to stop thinking that the 18-to-24 group is it for these (entry level) types of jobs. Their numbers are dwindling" said Philip Cawley, Executive Vice President of Human Resources for Sovran Financial Corporation (Gladwell, 1988). Not only is the traditional labor pool shrinking in number, but interest and application have lessened as well. Jerry Donovan, Vice President of personnel for Giant Foods, reports that "In upper income areas, there are only so many people available to do the job. Some don't want to work, and others tend to opt for higher level jobs" (Mayer, 1985).

Industries ranging from grocery store chains and drug stores to fast-food restaurants and banks are reacting to this shortage by searching for a new labor pool. In particular, McDonald's, Roy Rogers, Burger King, and Wendy's are now attempting to utilize the previously untapped resource of the mentally and physically disabled. On June 22, 1989, the New York Times reported that "the McDonald's restaurant chain introduced a

program to train and hire the mentally retarded and other people with developmental difficulties. In three years, the program resulted in employment for 3,000 people in 44 states" (Telsch, 1988). The recent commercials on national networks advertising the hiring of developmentally disabled adults through their MCJOBS Program is testimony to the interest of McDonald's. This new work force is currently being tapped by other businesses as well. In San Francisco, Safeway is attempting to fill the positions of courtesy clerks through the implementation of a 90 day training program for mentally and physically disabled workers. The program appears to be successful with more than 100 of the 175 students being hired for the entry-level jobs for which they were trained (Mayer, 1985). The banking industry is also responding to this crisis by utilizing the mentally disabled worker. Sovran Bank is turning to the Fairfax County School System (Virginia) as a possible solution. Routine entry level positions are now being filled by the school system's "mentally challenged" students (Gladwell, 1988). Jay Rochlin, Executive Director of the Presidents Committee on Employment of People with Disabilities, stated that "Demographics have given us a 20-year window opportunity in which to institutionalize employment of people with disabilities. During that period employers will be desperate to find qualified employees." (Telsch, 1989).

The Problem of Assimilating Individuals with Severe Disabilities Into the Workforce

The introduction of individuals with severe disabilities to the workplace, and vice-versa, has resulted in knowledge that disabled individuals can perform well in both competitive and non-competitive employment situations. Employers have also discovered that individuals with severe disabilities can perform a wider variety of tasks than traditionally thought possible.

Unfortunately, placements of workers with severe disabilities have not been without problems. One of the most frequently occurring problems has been the inability to make an appropriate match between a potential employee who has little, if any, work experience and a new and ever widening variety of job sites. Traditional vocational evaluation systems that have been used with other populations appear not to be appropriate or effective with many individuals with severe handicaps. Included in a long list of potential reasons for this ineffective assessment system are:

1. the cognitive nature of many assessment instruments which do not provide accurate information when assessing relatively low cognitive ability individuals

2. the relatively long training period for many individuals with severe disabilities before accurate assessments can be completed

3. the problem encountered when attempting to transfer training and assessment across seemingly like situations (simulations) to actual work environments

4. the real behaviors that interfere with successful work adjustment are not often measured on traditional assessment instruments

In order to address these issues, it is important to develop assessment instruments that are based on the needs and experiences of professionals who develop and provide supported employment programs. It is also important that the instrument be psychometrically valid and capable of reliably assessing task, skill, and ability requirements for a diverse group of jobs.

The key to the successful employment of this new labor pool may be in job analysis, accommodation, and redesign of the work setting to the capabilities of the worker. Personnel experts stress the importance of these steps in producing a more accurate description of the position will allow for more appropriate accommodations in the job (Carrell & Heavrin, 1987). Marriott Human Resources specialist, Donna Klein, has found that "It's hard to match them (the disabled) with jobs, but when we make it work, it works extremely well" (Brenner, 1989). With the correct implementation of job analysis, accommodation, and job redesign, the process of job matching should improve and result

in a greater number of successful matches.

The Work Inventory for Severely disAbled

The Work Inventory for Severely disAbled (WISd) is a job analysis/worker analysis instrument that I have developed with the assistance of Dr. Carl Cameron of George Mason University's Center for Human disAbilities. The primary purposes of this inventory are (1) to assess the suitability of worker/job fit for individuals with severe disabilities across a diverse set of jobs and to (2) to serve as a diagnostic means of determining accommodation/job redesign needs for severely disabled individuals in particular positions. The potential of individuals with severe disabilities to integrate into their communities and to successfully live and work with their non-disabled peers has been well demonstrated in the past several years. Transition professionals have attempted to provide appropriate opportunities for this integrated functioning in gainful employment. A problem that virtually all transition professionals face is identifying the best match between the individual's skills and potential and the requirements of specified jobs within a variety of different work sites. Furthermore, transition professionals must typically recommend steps for accommodating the individual to the job or for redesigning the job, based on the job attributes which will pose

special problems for the individuals with severe disabilities.

The development of the WISd was driven by the philosophy of Kochar & Armstrong (1988), in Gael's (1988) Job Analysis Handbook, regarding how job analysis could be optimally used as a tool for facilitating accommodation of the disabled individual to the job or for redesign of the job. The particular human attributes which are affected by the disability must direct the search for information to be obtained in the job analysis. What is not immediately apparent is what type of job analysis method should be used. For example, for various disabilities, it seems reasonable that any of the following instruments could be useful: (1) Fleishman's ability requirements scales (1992), (2) the Position Analysis Questionnaire (PAQ; McCormick, Jeanneret, & Mecham, 1989), (3) the U.S. Employment Service's Physical Demand scales (University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1982), (4) precise physical motion measures from the task analysis approach (e.g., see Van Cott & Paremore, 1988), or (5) Gilbreth's "Therbligs", such as searching, selecting, reaching, etc. (see Barnes, 1980). Yet, neither employers of the handicapped nor vocational staff who work with the handicapped have the time or money to utilize a job analysis which is an unwieldy aggregate of all the physical demand, ability requirements, and environmental condition scales, etc., that are available. And with a diverse cross-section of prospective jobs and employers, and only, at

best, a handful of positions for disabled workers to occupy at any specific job site, the task inventory method really isn't feasible. But the aforementioned types of job analysis are not what vocational specialists need. Instead, for a specific disability, they would like some type of standardized job analysis instrument which "hits at" the core of placement problems they have repeatedly faced in the past with regard to that disability.

Over several months, I conducted a series of panel interviews with supported employment counselors who were responsible for successfully placing (and retaining) workers with severe disabilities into a wide variety of low skill, entry-level jobs. The goal was to develop, based on the experiences of nearly 50 staff persons in a variety of supported employment roles, a taxonomy of the types of problems that adolescents and adults with developmental disabilities had transitioning to work. In interviews with supported employment staff, critical incidents were elicited concerning problems that individuals with moderate and severe developmental disabilities have experienced in diverse job placement settings. The disabilities included severe and multiple physical disabilities, mental retardation, and severe emotional disturbances. The placement jobs were also quite diverse -- gathering paper and cans for recycling, compacting materials, library assistance, elderly and personal care assistance, assembling different types of electrical equipment,

packaging silverware, cleaning restaurant facilities and utensils, fast-food restaurant counter service, food preparation, janitorial maintenance, stuffing envelopes, performing laundry duties, warehouse work, corrugated box production, and hotel and motel housekeeping. Interviews with the supported employment professionals revealed that there are particular problems that are often encountered when these placements occur and that they are occurring across a diverse sample of jobs. The 81 items in the WISd represent the recurring activities and working conditions that have caused problems across a wide variety of circumstances.

When using this instrument, a work site supervisor would rate the extent to which each of the activities and/or working conditions pertains to the job, while supported employment staff would rate the extent to which the worker was capable of performing these activities or under these particular conditions. In that sense, we are attempting to address the Americans with Disabilities Act's (ADA's) emphasis for "reasonable accommodation". Used in concert with an analysis of "essential functions" of the position [i.e., "those primary duties that are intrinsic rather than peripheral to the job"], we believe that diagnostic information can be provided indicating what type of accommodations should be made pertaining to a specific function that a particular applicant or employee must perform in a particular position. For example, large discrepancies between

the worker capability and job demand that appear among inventory items can be linked to primary duties to which they may pertain. In addition, from inventory items with large worker/job discrepancies, critical tasks can then be generated to which these "discrepancy" items would pertain. In this way, accommodation or redesign can be geared to essential functions.

There already exist worker/job match instruments that have been utilized with disabled workers. Two of the most prevalent ones, which influenced the development of the WISd, are the Worker Rehabilitation Questionnaire (Robinson, 1983, 1986; Robinson & Mecham, 1990) and the Job/Worker Compatibility Analysis system (Goodall, Groah, Sherron, Kreutzer, & Wehman, 1991; Kregel, Banks, & Hill, 1991). The WISd can be used for assessing worker/job fit in a manner similar to the other instruments -- that is, in terms of worker capability/job demand discrepancies. What distinguishes the WISd from the others is the philosophy behind its development, reflected in the extensive number and detail of items. Specifically, in allowing the disability to direct the search for job analysis information, recurring activities and working conditions have been identified which have caused difficulties for workers with severe disabilities across a wide variety of entry-level, low-skill jobs. The 81 items that comprise the instrument desribe the domain of problems that workers with severe disabilities have faced in entry-level jobs. This information can clearly and

specifically diagnose where accommodation and job redesign are needed. Yet, once the particular WISd items that constitute potential problems for the specific worker/job pair are identified, the process does not stop there. At that point, it is determined to what extent these particular WISd items are important to successful performance of job-specific tasks that the worker has performed poorly on or has not been allowed to perform due to lack of confidence that the worker's supervisor may have in delegating these tasks to him or her. In sum, such specific diagnostic information, taken in conjunction with its linkage to the actual tasks that constitute the job, provides specific, comprehensive information that can be directly utilized with accommodation and job redesign problems. Once one understands which of the WISd activities or working conditions pose worker/job fit problems, and how they pertain to the tasks that constitute the job, then it would be quite easy to make use of job accommodation/redesign information databases and archives, such as the Job Accommodation Network, the REHABDATA and ABLEDATA databases available through the National Rehabilitation Information Center, and Missouri Linc. Indeed, the accommodation/redesign potential of the WISd enables it to be especially valuable in the highly prevalent "place and train approaches (Gold, 1980; Rusch, 1986; Rogan and Hagner, 1990) where accommodation and job redesign techniques are implemented after the worker is placed in the job, rather than concentrating

the focus on pre-employment training. In turn, the limitation of the WISd is that the items pertain primarily to workers with moderate and severe disabilities in entry-level jobs. The instrument would not be as applicable to other types of workers in other types of jobs. On the other hand, entry-level jobs are the types in which workers with severe disabilities are most often placed; further, there is certainly a great potential for developing parallel WISd's for workers with severe disabilities in other types of jobs, such as highly physically demanding jobs or jobs that require great professional and technical skills. In fact, given that the purpose of the Americans with Disabilities Act is to empower workers with disabilities to assume new and more diverse jobs, as well as perform better in the types of jobs that they currently hold, a succession of WISds, rather than just one, is the goal that Dr. Cameron and I have for the long run.

In December, 1991, we began data collection for the purposes of assessing the reliability and validity of the WISd. With the help of a large metropolitan public school system, a large rehabilitation/placement agency, and staff from a small recycling company, we collected or made arrangements to collect data from over 50 workers in twenty-eight different jobs in seven different organizations in Northern Virgina. In Spring, 1992, several other Northern Virgnia organizations invited us to commence data collection at their sites. We are now in the process of doing so. Some workers are at the entry point for

thier first supported employment position, while others are currently employed. We are actively seeking to expand and diversify the sample of entry-level jobs which the workers occupy, as well as the nature of the disability which effects the workers. We are also interested in expanding data collection efforts beyond the Northern Virginia area.

What follows is a discussion of the methodology by which we are assessing the validity and reliability of the WISd. It is comprised of Job Analysis Validation, Worker Analysis Validation, and Aggregate Job/Worker Analysis Validation.

Job Analysis Validation

There are three main areas where the need for validation of the WISd is indicated. First, there is job analysis. Our staff and supervisors from the supported employment work sites will each complete the WISd as a means of analyzing the requisite activities and working conditions for each job. Our staff will first learn about the job from direct observation, interviewing subject matter experts, and performing the job. In this way, we can have a good working knowledge of the job before attempting to analyze it. We will collect and analyze this data in terms of inter-rater reliability with work-site supervisors. We will also collect test-retest reliability data by having the work-site supervisors complete the instrument again at a later date. Finally, we will be involved in convergent validation of the job analysis. Convergent validation will be undertaken by examining

the rated activity capabilities of successful workers at the job in relation to the activities that are determined to be critical to the job from the job analysis. One would hope that successful workers are rated as highly capable of performing the activities that were rated as most critical to the job during the job analysis. (Please refer to Figure 1 on the following page.)

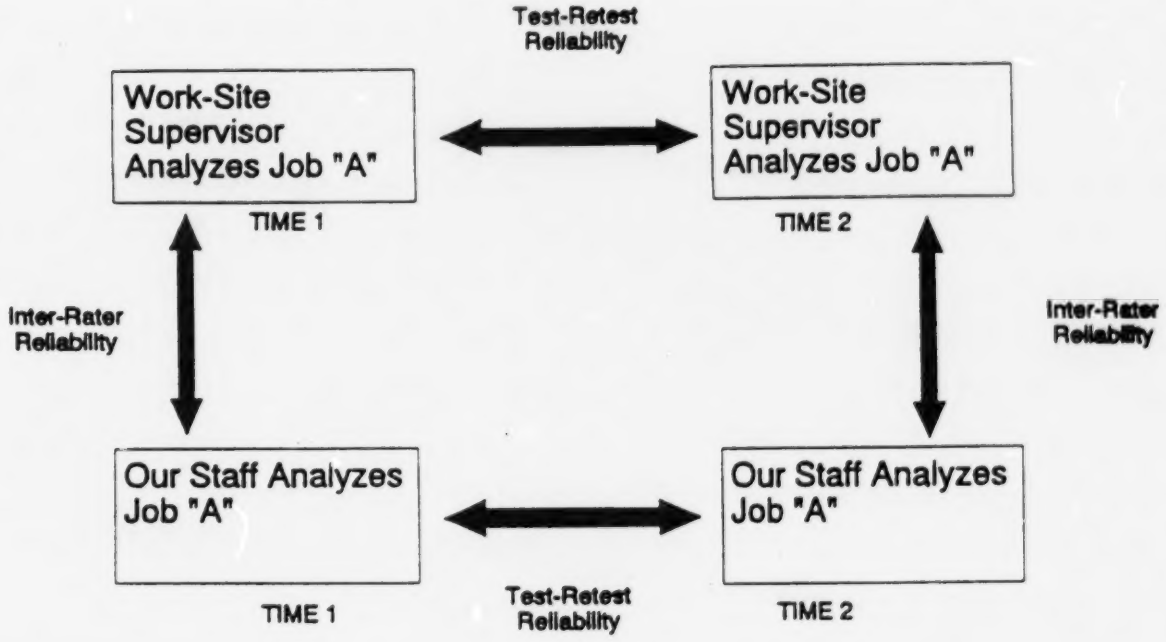
Worker Analysis Validation

Our second area of responsibility with respect to validation is worker analysis. Our staff will instruct the counselors and job-site supervisors at participating supported employment sites to use the WISd to assess potential workers' capabilities of performing the activities or under the working conditions specified in the instrument. Inter-rater reliability will be assessed by computing the correlations between work site supervisors' and suuported employment couselors' worker analysis ratings. For test-retest reliability, we will have work site supervisors or counselors complete the instrument at two separate times for each worker assessed. As a convergent validation test of the situational specificity of the worker's capabilities, as manifest on the job, we will also have the worker's guardians or other caretakers assess the worker's capabilities in the non-work milieu. It may very likely be the case that particular capabilities that are exhibited in one setting, particularly social interaction types of behaviors, are not necessarily exhibited in another setting. This could be due to different

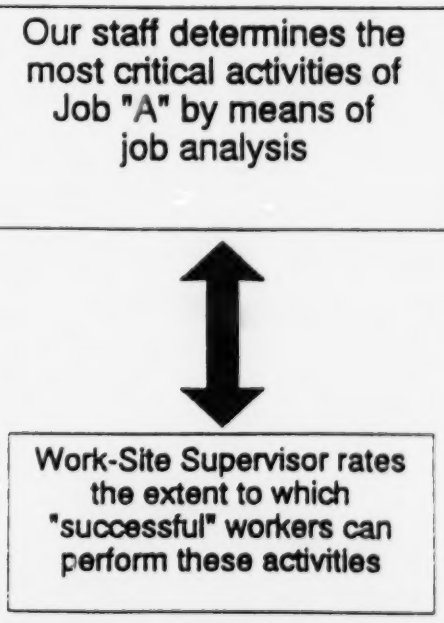
FIGURE 1

Job Analysis Validation

Test-Retest Reliability and Inter-Rater Reliability



Convergent Validation


Our staff determines the most critical activities of Job "A" by means of job analysis
Work-Site Supervisor rates the extent to which "successful" workers can perform these activities

norms, expectations, reward contingencies, etc. Nevertheless, it is important to gauge the situational specificity of reported capabilities. (Please refer to Figure 2 on the following page.)

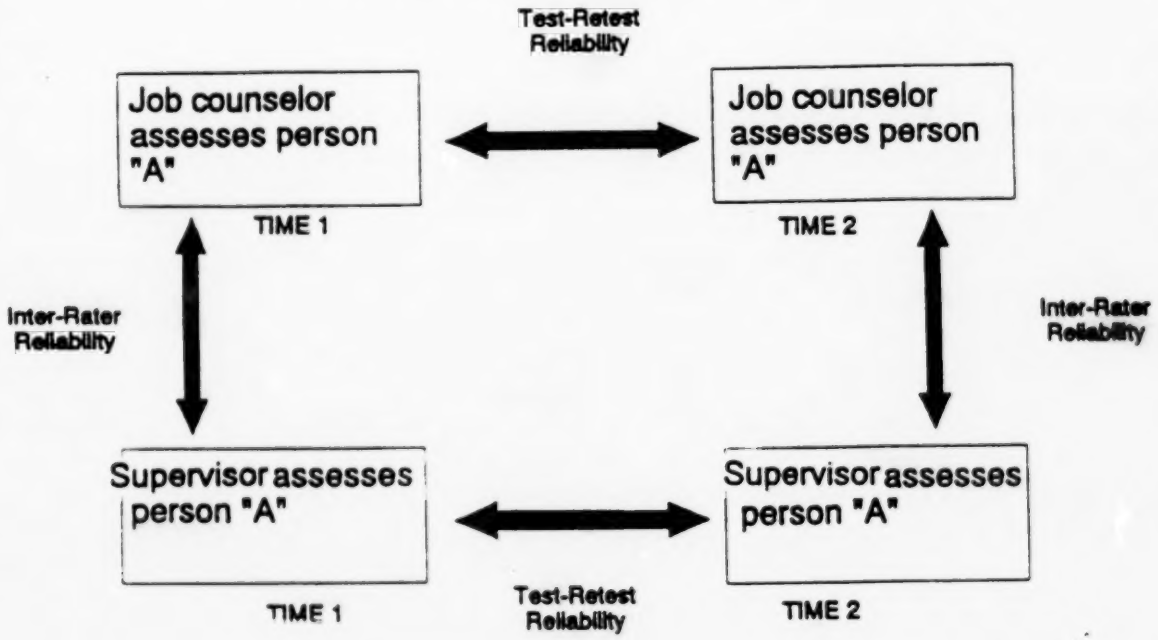
Aggregate Job/ Worker Analysis Validation

The third area of responsibility with respect to validation is aggregate job/worker analysis validation. Our staff will develop a content-valid performance appraisal form for the job counselor (support person) and host-site supervisor (employer) to use based on the duty functions of the particular job. We will instruct the counselors and host-site supervisors in how to evaluate their supported employment workers using the performance appraisal form. The counselor and host-site supervisor will discuss the worker's performance and complete the appraisal together as a team by reaching consensus on their appraisals. Such a process ensures that the perspectives of both individuals are taken into account when appraising the worker's performance. The results of the performance appraisal will be compared with the results of the job and worker analyses for each worker. The greater the discrepancy between the requisite activities of the job and the person's rated capability to perform those activities, the lower the performance appraisal score should be, and vice versa. The results of all job and person analysis profiles will be entered into a data base for future use in determining appropriate job placements for disabled workers. (Please refer to Figure 3 on page 21.)

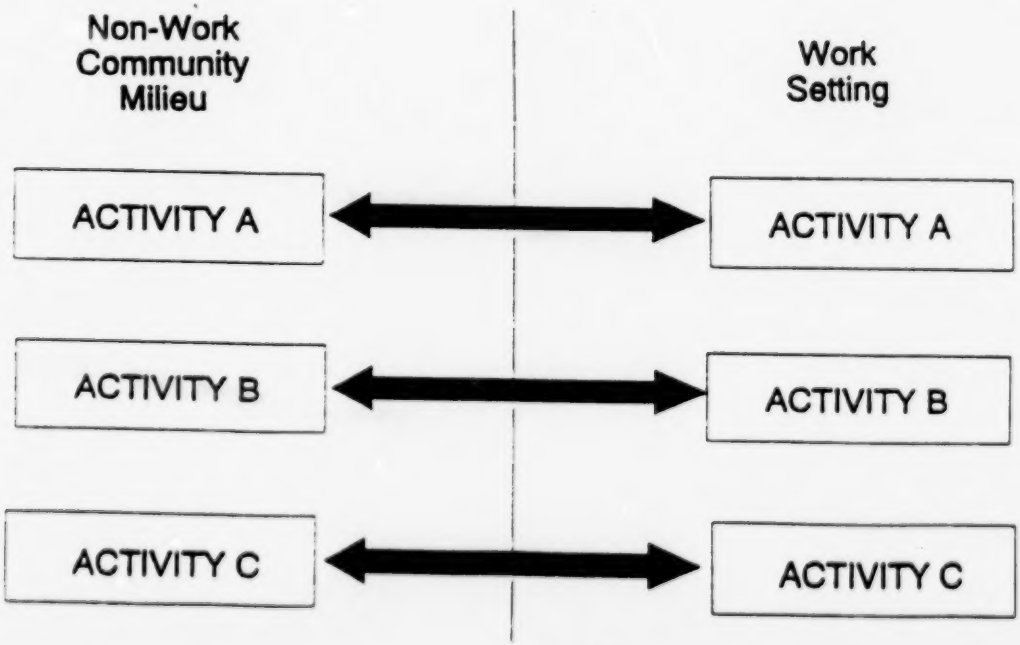
FIGURE 2

Worker Analysis Validation

Test-Retest Reliability and Inter-Rater Reliability



Convergent Validation



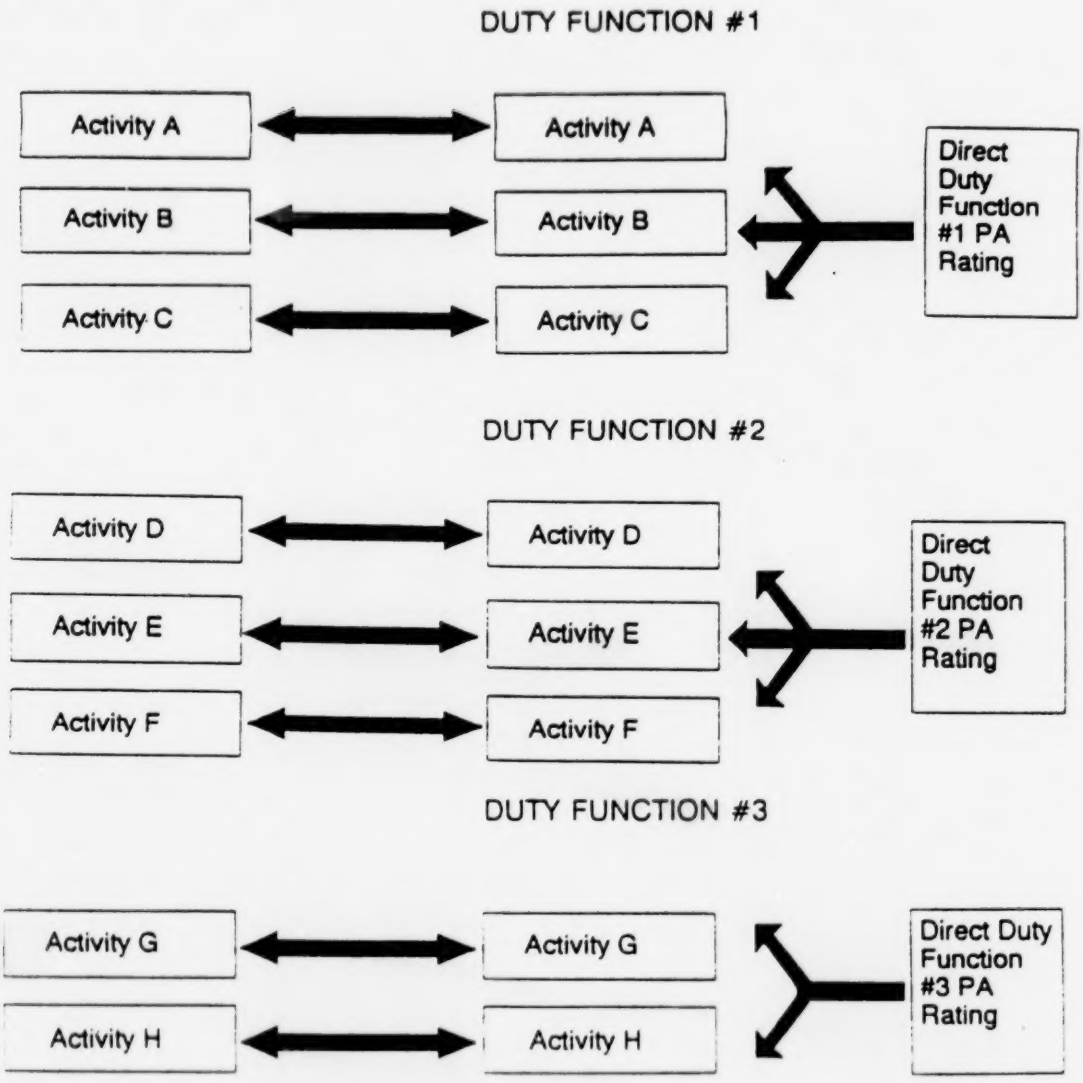
For each particular client profile, software that we will develop will enable us to obtain the following types of information: (1) a rank-ordered list of jobs, in terms of suitability of match to the client's skills; (2) for a particular job, a specification of activity areas where intervention will likely be needed, as well as activity areas for which the client should perform well without intervention. In addition, for each particular job profile, our software will enable us to obtain a rank-ordered list of clients, in terms of their suitability of match to the activities that comprise the job. (Please refer to Figure 3 on the following page.)

FIGURE 3

Aggregate Job/Worker Analysis Validation

Discrepancy between Rated Worker Activity Capability and Rated Criticality of the Activity to the Job

Performance Appraisals (Made consensually by job counselor and host site supervisor)



References

Bacon, D.C. (1988). Firms try harder to attract workers. Nation's Business, December.

Barnes, R. (1980). Motion and time study, design and measurement of work. New York: John Wiley & Sons.

Brenner, J.G. (1989). Desperate firms devising ways to help fill job vacancies. Washington Post, July 17: WB29.

Carrell, M.R. & Heavrin, Jr., W.T. (1987). The Handi-Capable employee: An untapped resource. Personnel, August, 41-42.

Fleishman, E. A. (1992). The Fleishman Job Analysis Survey (F-JAS). Palo, Alto, CA: Consulting Psychologists Press, Inc.

Gladwell, M. (1988). Shortage of employees hampers area firms. Washington Post, August 15: WB1.

Gold, M. (1980). Mark Gold: Did I say that? Articles and commentary on the try another way system. Champaign, IL: Research Press.

Kochar, D. S., & Armstrong, T. J. (1988). Designing jobs for handicapped employees. In S. Gael (Ed.)., The job analysis handbook for business, industry, and government. (Vol. I). New York: John Wiley & Sons.

Mayer, C.E. (1985). Low-level jobs remain unfilled; Firms near and far try gimmicks to lure potential employees to work. Washington Post, November 25: WB26.

McCormick, E. J., Jeanneret, P. R., & Mecham, R. C. (1989).

Position Analysis Questionnaire. Palo Alto, CA: Consulting Psychologists Press, Inc.

Robinson, D. D. (1983). A preliminary report of a computerized system for matching persons to alternative occupations, considering work experience, interests, abilities and physical or psychological limitations. Division of Psychology and Law Newsletter, 3, 8-9.

Robinson, D. D. (1986). Worker Rehabilitation Questionnaire (WRQ) Technical Manual. Boulder, CO: Worker Rehabilitation Associates, Inc.

Robinson, D. D., & Mecham, R. C. (1990, April). Occupations potentially appropriate for persons with low back pain. Paper presented at the Sixth World Congress on Pain of the International Association for the Study of Pain, Adelaide, S. Australia.

Rogan, P., & Hagner, D. (1990). Vocational evaluation in supported employment. Journal of Rehabilitation, January/February/March, 45-51.

Rusch, F. R. (1986). Competitive employment issues and strategies. Baltimore: Paul H. Brookes.

Teltsch, K. (1989). As the labor pool dwindles, doors open for the Disabled. New York Times, June 22: A1.

University of Wisconsin-Stout, Stout Vocational Rehabilitiation Institute, Materials Development Center. (1982). A guide to job analysis. Menonomie: Author.

Van Cott, H. P., Paremore, B. (1988). Task analysis. In S. Gael (Ed)., The job analysis handbook for business, industry, and government. (Vol. I). New York: John Wiley & Sons.